

19 December 1968

MEMORANDUM FOR: DD/ORD

SUBJECT : TSD Requirements in Acoustics and
Speech Processing

REFERENCE A : Memorandum For: DD/ORD, Attention
[redacted] TSD Requirements
in Acoustics and Speech Processing in
Direct Support of TSD Program I.

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1. Attached is a memorandum, Ref. A, stating the R&D support needs of TSD/D&E, Program I, in acoustics and speech processing. Relative priorities are stated.

2. Two of the requirements listed are already included in the TSD Requirements Log; they are:

Para. 3a. Signal Processing Enhancement TI-2-69

Para. 3d. [redacted]

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Please note the delineations of scope made in the reference memorandum concerning these two requirements.

3. In addition, the following are stated as requirements:

✓ a. Improvement in the Quality of Audio Take as Recorded in the Field.

(Para. 2, Ref. A) TI-17-69

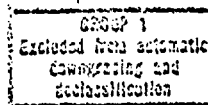
✓ b. Spectral Signal-To-Noise Analysis of Tapes Returned from the Field (Para. 3b)
TI-18-69

✓ c. Transcriber Aids Including Key Word Recognition (Para. 3c)
TI-19-69

4. Please add the above three requirements to your copies of the TSD Requirements Log.

5. Requirement T X-1-69 differs from any of the above in that it involves exploratory studies that in

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25X1 some cases underlie and in others go beyond the more immediate support needs as expressed under the TI series. [REDACTED] remains the point of contact in TSD for this requirement.

6. It is suggested that after appropriate study of the totality of TSD requirements in this field, ORD convene a meeting of pertinent personnel as was discussed in August 1968 to detail plans for handling the acoustics and speech processing requirements.

[REDACTED]
C/TSD/D&E

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ATTENTION :

SUBJECT : TSD Requirements in Acoustics and
Speech Processing in Direct Support
of TSD Program I

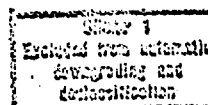
1. This memo is intended to outline for you TSD's goals and priorities in the subject area.

2. The problem of first priority can be briefly stated as: How can we improve the quality (intelligibility) of the "take" from audio surveillance operations? By far the most damaging degradation to this audio "take" occurs between the target speaker and the microphone. This degradation occurs as a result of one or more of the following conditions: excessive room reverberation, spectrum shaping in the acoustic path, or poor signal-to-noise resulting either from insufficient signal or excessive noise or both. We feel, therefore, that this portion of the surveillance link, between the speaker and the microphone, should be concentrated upon.

3. Running a weak second in terms of priority would be the following areas:

- (a) Operation of a central tape processing or "clean-up" facility, in which an attempt to improve tapes returned from the field would be made. These tapes could be expected to be very poor in terms of quality, but possibly important in terms of information content.
- (b) Spectral signal-to-noise analysis of tapes returned from the field, with the purpose of building a long-term history of tape quality, which would also shed some light on installation and equipment quality.
- (c) Transcriber aids, including key word recognition.
- (d) Studies of languages such as Chinese, with the objective of optimizing surveillance equipment to suit the language.

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4. This memo is in no way intended to limit the scope of your work in the subject field, but rather to point out areas of priority concern to TSD.

25X1 5. [REDACTED] Program Manager for Audio Surveillance, has direct responsibility for development of audio and acoustics equipment and should be kept fully informed. Semiannual status reports, as well as progress reports on current TSD requests, would be most useful to him. It is expected that contact between you and other TSD personnel will continue to be as free and fruitful as in the past.

[REDACTED]
C/TSD/D&E

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